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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,960	03/31/2004	Chih-Kang Wu	SUND 512	4884
23995	7590	05/05/2006	EXAMINER	
RABIN & Berdo, PC 1101 14TH STREET, NW SUITE 500 WASHINGTON, DC 20005			HAN, JASON	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/812,960

Applicant(s)

WU, CHIH-KANG

Examiner

Jason M. Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to Claims 1, 3-8, and 10-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirashiro et al. (JP 2001283624 A).
3. With regards to Claim 1, Hirashiro discloses a direct backlight module including:
  - A reflective base [Figures 10-11: (51)], whereby two opposite side regions of which both having two opposite openings [Figure 11: (5A1)] located at two ends of each side region separately;
  - A buffer block [Figures 10-11: (52a-j)] disposed on the reflective base and being positioned opposite to one of the openings;
  - A lamp tube having two opposite electrodes at two ends of the lamp tube separately, wherein one of the electrodes is mounted in the buffer block [Figures 10-11];
  - A casing [Figures 10-11: (59)] assembled with the reflective base and covering the buffer block, and an airflow channel [Figures 10-11: (5H)] formed

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by the combination of an inner chamber of the casing and the openings of the side regions;

- Wherein the lamp tube, the buffer block and the airflow channel are constructed on the same level [Figures 10-11].

4. With regards to Claim 3, Hirashiro discloses a frame [Figures 10-11: (51)] for covering the reflective base, whereby the frame has a hole [Figures 10-11: (54-55)] opposite to the airflow channel.

5. With regards to Claim 4, Hirashiro discloses a fan [Figures 10-11: (56)] installed in the frame so that air is blown in/out through the airflow channel.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirashiro et al. (JP 2001283624 A) as applied to Claim 1 above, and further in view of Hayashi et al. (US Patent 6655810).

Hirashiro discloses the claimed invention as cited above, but does not specifically teach a heat-transmitting fin being disposed on the buffer block so that heat given off from the two electrodes of the lamp tube and accumulated inside the buffer block is transmitted outside by the heat-transmitting fin.

Hayashi teaches a lighting unit, wherein a heat-transmitting fin [Figure 1B: (35)], disposed on a buffer block [Figure 1B: (6)] housing a lamp tube with electrodes, accentuates heat transfer of the system via airflow [Figure 2].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the buffer block of Hirashiro to incorporate the heat-transmitting fin, as principally taught by Hayashi, in order to increase heat transfer within the system via airflow and ensure efficient illumination. Such heat fins are commonly known within the art to increase convection.

7. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirashiro et al. (JP 2001283624 A) as applied to Claim 1 above, and further in view of Yamamoto et al. (US Patent 6089739).

Hirashiro discloses the claimed invention as cited above, but does not specifically teach the material of the buffer block being a rubber (re: Claim 6), specifically a heat-transmitting rubber (re: Claim 7).

Yamamoto teaches the material of a buffer block for an electrode of a lamp tube being a rubber, and more specifically a heat-transmitting rubber [Column 4, Lines 37-39].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the buffer block of Hirashiro to incorporate the heat-transmitting rubber, as principally taught by Yamamoto, in order to increase heat transfer within the system via combined thermal conduction and convection, ensuring efficient illumination, as well as ensuring appropriate and safe electrical connection for the lamp electrodes.

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8. Claims 8, 10-11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirashiro et al. (JP 2001283624 A) in view of Hayashi et al. (US Patent 6655810).

9. With regards to Claim 8, Hirashiro discloses a direct backlight module including:

- A reflective base [Figures 10-11: (51)], whereby two opposite side regions of which both having two opposite openings [Figure 11: (5A1)] located at two ends of each side region separately;
- A buffer block [Figures 10-11: (52a-j)] disposed on the reflective base (within the casing defined below) and being positioned opposite to one of the openings;
- A lamp tube having two opposite electrodes at two ends of the lamp tube separately, wherein one of the electrodes is mounted in the buffer block [Figures 10-11]; and
- A casing [Figures 10-11: (59)] assembled with the reflective base and covering the buffer block, and an airflow channel [Figures 10-11: (5H)] formed by the combination of an inner chamber of the casing and the openings of the side regions.

Hirashiro does not specifically teach a heat-transmitting fin being disposed on the buffer block so that heat given off from the two electrodes of the lamp tube is radiated from the buffer block and the heat-transmitting fin, and then transmitted outside through the airflow channel.

Hayashi teaches a lighting unit, wherein a heat-transmitting fin [Figure 1B: (35)], disposed on a buffer block [Figure 1B: (6)] housing a lamp tube with electrodes, accentuates heat transfer of the system via airflow [Figure 2].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the buffer block with lamp electrodes of Hirashiro to incorporate the heat-transmitting fin, as principally taught by Hayashi, in order to increase heat transfer within the system via airflow and ensure efficient illumination. Such heat fins are commonly known within the art to increase convection.

10. With regards to Claim 10, Hirashiro in view of Hayashi discloses the claimed invention as cited above. In addition, Hirashiro teaches a frame [Figures 10-11: (51)] for covering the reflective base, whereby the frame has a hole [Figures 10-11: (54-55)] opposite to the airflow channel.

11. With regards to Claim 11, Hirashiro in view of Hayashi discloses the claimed invention as cited above. In addition, Hirashiro teaches a fan [Figures 10-11: (56)] installed in the frame so that air is blown in/out through the airflow channel.

12. With regards to Claim 14, Hirashiro in view of Hayashi discloses the claimed invention as cited above. In addition, Hirashiro teaches the lamp tube, the buffer block, and the airflow channel being constructed on the same level [Figures 10-11].

13. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirashiro et al. (JP 2001283624 A) in view of Hayashi et al. (US Patent 6655810) as applied to Claim 8 above, and further in view of Yamamoto et al. (US Patent 6089739).

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Hirashiro in view of Hayashi discloses the claimed invention as cited above, but does not specifically teach the material of the buffer block being a rubber (re: Claim 12), specifically a heat-transmitting rubber (re: Claim 13).

Yamamoto teaches the material of a buffer block for an electrode of a lamp tube being a rubber, and more specifically a heat-transmitting rubber [Column 4, Lines 37-39].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the buffer block of Hirashiro in view of Hayashi to incorporate the heat-transmitting rubber, as principally taught by Yamamoto, in order to increase heat transfer within the system via combined thermal conduction and convection, ensuring efficient illumination, as well as ensuring appropriate and safe electrical connection for the lamp electrodes.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (4/21/2006)

Jason M Han  
Examiner  
Art Unit 2875

  
ALAN CARIASO  
PRIMARY EXAMINER